Search for Subthreshold Neutron Production in Be

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There has long been interest in photoneutrons from Be, which has the lowest threshold known for any stable target. We have recently made a search for neutrons directly produced by the photon-induced 3-body breakup in $\gamma + {}^{9}\mathrm{Be} \rightarrow \alpha + \alpha + \mathrm{n}$. The photons were obtained from a 2-MV electron Van de Graaf accelerator and allowed to irradiate a target of beryllium metal located at the center of a moderated detector array consisting of 30 10-atm ^{3}He proportional counters. The photoneutron production was recorded as the bremmstrahlung end point was varied from 1.5 MeV to 1.8 MeV, encompassing the region from above the 2-body threshold in the reaction $\gamma + {}^{9}\mathrm{Be} \rightarrow {}^{8}\mathrm{Be} + \mathrm{n}$ to well below the energy needed for direct 3-body break up. A null result was obtained in contradiction to the previously reported experiment of Fujishiro *et al.* [M. Fujishiro, K. Okamoto, and T. Tsuijimoto, Can. J. Phys. **60** 1672 1983].

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